

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
*SOUTH DAKOTA SUPPLEMENTS ITALICIZED***

STRIPCROPPING, FIELD

(ac.)
CODE 586

DEFINITION

Growing crops in a systematic arrangement of *near equal width* strips or bands across the general slope (not on the contour) to reduce water erosion. The crops are arranged so that a strip of grass or a close-growing crop is alternated with a clean-tilled crop or fallow.

PURPOSE

To help control erosion and runoff on sloping cropland where contour stripcropping is not practical.

CONDITIONS WHERE PRACTICE APPLIES

On sloping cropland and on certain recreation and wildlife *land where crops are grown and where it is an essential part of a cropping system to reduce sheet and rill erosion and sediment yield.*

This practice is most suitable on undulating to rolling topography where contour stripcropping is not practical because of the difficulty of maintaining parallel strip boundaries across the hill slope and/or staying within in-row grade limits, and with slope lengths (L) equal to or less than the critical slope length determined using the Revised Universal Soil Loss Equation (RUSLE) "P" factor procedure.

The effect on erosion reduction for this practice is reduced on fields where slope length (L) exceeds the critical slope length for contouring by 1.5 times, unless the slope length (L) is shortened by the installation of other practices such as terraces.

This practice is most effective on flatter slopes (2 to 12 percent) but can reduce sheet and rill erosion on steeper slopes. Effectiveness of this practice is a function of soil texture, land slope, in-row grade, effective ridge height, and cover-management condition.

The standard does not apply to situations where the alternating strips are not generally equal in width or where the land is treated with Contour Buffer Strip, or Contour Stripcropping.

CRITERIA

General Criteria Applicable to All Purposes

A. *Row Grade, Strip Boundaries, and Baselines*

The in-row grade of the field strip shall be aligned across the slope as closely as possible to the contour to achieve the greatest erosion reduction possible. The maximum in-row grade of the field strips shall not exceed one-half of the up and down hill field slope.

For crops sensitive to ponded water for periods less than 48 hours and/or soils classified as somewhat poorly drained, poorly drained, or very poorly drained, design a positive row grade of not less than 0.5 percent sloping toward a stable outlet.

B. *Critical Slope Length*

The critical slope length for field stripcropping system is 1.5 times the critical slope length determined for contour farming as determined using approved erosion prediction technology.

C. *Headlands or End Rows*

Establish and maintain headlands or end rows in a perennial herbaceous vegetation when concentrated water flows will develop or where up and down hill farming will result in a soil loss greater than the planned soil loss objective for the field. Field borders shall be of sufficient

width to accommodate turning farm equipment without additional end rows.

D. Stable Outlets

Surface flow from crop rows in field stripcropping must go to a stable outlet. Stable outlets include grassed waterways, underground outlets for terraces or diversions, water and sediment control basins, field borders, or similarly stabilized areas.

E. Arrangement of Strips

Field strips shall be an alternated pattern down the slope with equal or near equal width strips of perennial legumes, grass-legume mixtures, grasses or small grain crops alternated with cropped strips that are typically planted in tilled seedbeds (includes annual crops planted in rows or drilled).

When used in combination with terraces, the layout of field strips shall be coordinated with the grade and spacing of the terraces so those strip boundaries will parallel terraces wherever possible.

F. Width of Strips

Cropped strip widths shall be of uniform width as much as possible and will not exceed 50 percent of either the slope length (L), used for erosion calculation, or the critical slope length for strip cropping, whichever is least, determined by using the approved erosion prediction technology.

Cropped strip widths shall be adjusted downward to accommodate equipment widths.

G. Level of Erosion Control

The level of sheet and rill erosion control achieved by the installation of field stripcropping shall meet or exceed the soil erosion level specified by the conservation plan objective. It shall be determined using approved erosion prediction technology, accounting for the impact of other conservation practices in the system.

CONSIDERATIONS

Protect areas of existing or potential concentrated flow erosion by any one or more suitable conservation practices, such as grassed waterways, water and sediment control basins, terraces or diversion terraces.

Design and install the strip layout to best facilitate operation of all machinery used on the strips. Whenever possible, field strips should have multiples of full implement widths used for the farming operation and an even number of trips across the field.

Prior to design and layout, consider removing any obstructions or making changes in field boundaries or shape to improve the effectiveness of the practice and the ease of performing farming operations, where feasible and within policy constraints for wetlands, cultural resources, etc.

To begin layout, inspect the field's position on the landscape to find key points for commencing layout or getting a width of one-half strip or more to pass by an obstruction. Account for uncropped field roads or other similar features in the layout.

Critical slope lengths can be increased by retaining crop residue on the soil surface of the cultivated strips using crop residue management practices. However, if field strips are kept under heavy residue cover, the need for field stripcropping as an erosion and sediment reduction practice will be reduced since less sediment will be delivered to the downslope strip.

Select adapted varieties of perennial crop species for persistence of stands as desired in the planned crop rotation.

PLANS AND SPECIFICATIONS

Specifications for installation, operation, and maintenance of field stripcropping shall be prepared for each field according to the Criteria, Considerations, and Operations and Maintenance described in this standard, and shall be recorded or incorporated into narrative statements in conservation plans, job sheets or other acceptable documentation.

OPERATION AND MAINTENANCE

Conduct all farming operations parallel to the strip boundaries.

Mow field borders and waterways annually after the primary nesting season.

Follow the planned crop rotation to rotate perennial crop strips with annual crop strips. Rotation of crops is the key to making the field stripcropping system effective for both crop production and erosion reduction.

Manage perennial crops in rotation using principals contained in Forage Harvest Management (511); Nutrient Management (590); and Pest Management (595) to promote longevity of stands as desired in the planned crop rotation.

Manage pesticide applications to avoid overlap and/or drift onto adjacent rotational hay strips.

Renovate vegetated headlands or end row areas as needed to keep ground cover above 65 percent.

Renovation shall only include the immediate seedbed preparation and reseeding to a sod-forming crop with or without a nurse crop.

Maintain full headland or end row width to allow farm implements room to double back on the same strip without additional end rows.

REFERENCES

Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE).

Agricultural Handbook Number 703.